



GOVERNOR'S OFFICE OF ENERGY

**MINUTES
NEW ENERGY INDUSTRY TASK FORCE
TECHNICAL ADVISORY COMMITTEE on DISTRIBUTED GENERATION AND
STORAGE**

The TAC on DG and Storage held a public meeting on April 28, 2016 beginning at 9:00 AM at the following locations:

LAS VEGAS

Grant Sawyer State Office Building
555 East Washington, Room 4412
Las Vegas, Nevada 89101

CARSON CITY

Nevada Legislative Building
401 S. Carson Street, Room 3137
Carson City, Nevada 89701

1. Call to Order and Roll Call.

Chairman Susac called the meeting to order. Roll Call was taken and it was determined a quorum of the Distributed Generation and Storage TAC was present.

TAC Members Present

Jeremy Susac, Chair
Bo Balzar
Matt Tuma
Marco Velotta
Dale Stransky
Jessica Scott
Jack McGinley
Tom Ewing
Sarah Van Cleve

TAC Members Absent

Adam Kramer
Bobby Hollis
Jason Geddes

2. Introductions and welcome

Chairman Susac provided opening comments and the members of the TAC introduced themselves

3. Public comments and discussion.

Mr. Tom Dudas introduced himself as a NEM customer. He provided comments on the health, environmental, and overall benefits of distributed solar.

Mr. Aaron Dougherty identified himself as a NEM customer and supporter. He discussed the need to change the NEM policy and the need to support distributed generation.

Mr. Richard Burk identified himself as a firefighter and supporter of distributed solar. He discussed the benefits rooftop solar provides to the grid and community security.

Mr. Tom Polikalas discussed the need to have the American Jobs Project present at the TAC meetings. He also discussed the benefits storage technologies provide to the grid and identified some potential sources of information for the TAC.

4. Smart technologies for energy management

a. Smart meters

Mr. Pat Egan, Senior Vice President of Customer Operations at NV Energy introduced himself. He provided an overview of NV Energy's technology and communication investments. Mr. Egan discussed the utility's Smart Grid Vision and provided background of the deployment of smart meters throughout the grid. NV Energy installed over 1.4 million electric and gas smart meters from 2010-2015; spurred by a \$130 million grant from the US Department of Energy. These installations provide annual cost reductions of \$20 million. Mr. Egan discussed the updates in information available for customers and improvements to customer control of their usage. He supplied an overview of the individual features provided by the MyAccount program and smart meters. These improvements have had a positive impact on customer satisfaction. Mr. Egan presented an overview of NV Energy's voluntary participation in the California Independent System Operator's Energy Imbalance Market (EIM) since 2015. Membership offers better regional cooperation and sharing of resources between service units. This program has increased the cost effectiveness of intermittent renewable resources. Mr. Egan gave an overview of the Monitoring and Diagnostic Center and ongoing improvements to power plant operations and energy delivery systems. He discussed energy efficiency and demand response programs. These technologies allow remote control of thermostats and advanced energy management during peak demand.

Mr. Stransky asked for more examples of the improvements made by the MDC. Mr. Egan discussed how the advanced monitoring of the fleet and assets allows for maintenance of equipment at optimum times of the year.

Mr. Balzar asked for clarification of the savings and cost of the smart meter deployment. Additionally, he identified that smart meters allow for better utility management of NEM systems and management of the grid. Mr. Egan clarified that the smart meter system allows for better forecasting and energy management of demand and the two discussed how the system views NEM installations. Chair Susac identified that there are both demand and input meters.

Ms. Van Cleve asked what other demand response programs NV Energy has put into place. Mr. Egan discussed the some of the current limitations on smart meters and identifies some of the new technologies that are making demand response better. He discussed the need to get PUCN approval for any investments in these programs on a large scale. Ms. Van Cleve identified the need to improve incentives for commercial and industrial to cut demand during peak times. Mr. Egan discussed the expanding opportunities for commercial participation.

Chair Susac asked if there are currently incentives for pre-cooling or heating. Mr. Egan said that not directly but discussed the optional time of use rates offered by NV Energy. Chair Susac asked for clarification of demand charges and options for customers. Mr. Egan expanded on the expanding opportunities for customers to optimize usage of AC and other appliances.

Mr. Bo Balzar asked what time of day provides the best value for demand response. Mr. Egan said that peak times offer the best value but programs also offer customer override options. They discussed the benefits for customers to save with time of use rates. Mr. McGinley discussed the migration of peak times to later in the evening and the ability of demand response to reduce stress to the grid.

Mr. Stransky asked if back-up generation is still present at major casinos and if NV Energy can manage those assets. Mr. Egan explained that most properties have some form of generation but don't know the extent of how much of a load they can provide individual properties. NV Energy does not have control of the systems but smart meters provide customers with better information to manage those back-up systems. They discussed options to integration of management with these systems to reduce peak load.

b. Storage

Mr. Cameron Stewart from Solar Edge introduced himself and discussed his company's partnership with Tesla. He discussed the benefits storage provides with backup power supply and supporting grid functionality. Mr. Stewart gave an overview of the StorEdge smart inverter system which allows connection to a battery system to reinforce primary needs. He discussed the technical aspects of installing a smart inverter and battery system and the benefits of peak reduction.

Mr. Stransky asked for clarification for the energy storage capacity of the batteries they use. Mr. Stewart explained that one battery cycle is 6.4 kWh but that they often install two batteries in the systems.

Mr. McGinley asked if these smart inverters allow power to be provided to NEM customers during a power outage. Mr. Stewart explained that these new inverters disconnect the system from the grid but allow customers to draw from their individual system. The also discussed how demand charges and time of use charges increase the cost effectiveness of storage.

Chair Susac asked about the cost of the system. Mr. Stewart said that the wholesale cost of the battery is about \$3,000 but that it is more with a smart inverter and installation through a dealer.

Mr. Stransky asked what the lifecycle of the batteries is. Mr. Stewart discussed the parameters of the Tesla Powerwall and the movements of the industry to standardize how battery lifecycles are discussed.

Mr. Pat Egan, Senior VP at NV Energy gave a presentation on a pilot storage program with Pulte Homes, UNLV, and the US Department of Energy. Mr. Egan was joined by Mr. Michael Brown with NV Energy. Mr. Egan gave an overview of the project which included 185 LEED Platinum homes with objectives to integrate distributed generation and storage. Homes became available in

2009/2010 and have been completely sold. They have used multiple battery providers and other technology vendors. NV Energy is continuing to monitor usage and collect data with this project to improve demand response optimization for customers. Mr. Egan concluded with the key findings and identified gaps but that storage technologies are improving in functionality and cost effectiveness.

Mr. Pat Egan and Task Force Member Senator Spearman discussed opportunities to partner with the US Department of Defense.

Mr. Stransky asked for clarification of when storage technologies will become more cost effective. Mr. Egan deferred to representatives of different technologies but stated that the trend is these technologies are improving over time and that trend does not appear to be plateauing any time soon.

Ms. Van Cleve asked what processes NV Energy has gone through to assess the value of storage. Mr. Egan discussed the Integrated Resource Plan process with the PUCN and the need to utilize the information provided in pilot programs. Mr. Brown added that they are currently going through the technical integration process along with the policy integration and economic evaluation.

5. Discussion on values of distribute solar generation

Mr. Ryan Hanley, VP at SolarCity, introduced himself and discussed the cost-benefit analysis SolarCity is currently producing with NRDC. He gave an overview of the costs and benefits identified and studied in the E3 NEM Study (July 2014), PUCN NEM Order (Fall 2015), PUCN Decision (Dec. 2015), the PUC Order (April 2016) and their current study. Mr. Hanley identified the need to update information from the 2014 E3 analysis and how their study started with the data provided from that study. The ongoing analysis is examining policies and technologies available in the immediate future, 2017-2019, and those which should be available in the near future, 2020-2022. The preliminary results show a net benefit to all Nevada customers by NEM PV. This conclusion comes from assigning a fiscal value to all of the benefits identified. Mr. Hanley identified how each benefit had been updated from the E3 study. The analysis is currently being finalized with peer review input and should publish findings in late May. Mr. Hanley discussed the need to transition the industry from NEM at retail rates to reimbursement based on the benefits. He identified the policy discussion in New York.

Mr. Stransky asked for clarification on how the analysis updated energy prices. Mr. Hanley explained that they reduced the energy cost by 40% for natural gas. Mr. Stransky clarified the changes which occurred with how utility scale solar rates were updated and the current IRP with the PUCN.

Mr. Balzar asked for clarification on the values that were produced for the benefits of Generation Capacity and T&D Capacity. Mr. Hanley identified that these estimates come from the marginal cost analysis provided by E3.

Mr. McGinley asked for clarification on T&D and the inclusion of D in this analysis versus its exclusion in the E3 study. Mr. Hanley identified that it was included in the model E3 developed but not the final report. Mr. Stransky clarified that it was left out due to input from a stakeholder process.

Ms. Van Cleve asked for clarification of the New York policy agreement on NEM. Mr. Hanley provided an overview of the continuation of NEM at the retail rate and the transition to reimbursement based off of a value of service analysis.

Mr. McGinley asked for clarification on the New York deal which had a payment back to the system. Mr. Hanley explained that NEM has been incentivized due to the benefits provided and it has been a very easy process for customers to understand. The policy compromise in New York has installers providing the difference between the value of service and the retail rate of reimbursement.

6. Review responses to NEM alternatives and proposals

a. Overview of responses from TAC members

Chair Susac identified that we would go through grandfathering proposals first and review additional proposals following that discussion. Overviews of written proposals on grandfathering existing NEM customers were provided by Mr. Dale Stransky, Ms. Jessica Scott, Mr. Velotta, Mr. Balzar, Mr. McGinley, Mr. Tuma, and Chair Susac.

Chair Susac and Mr. McGinley discussed the potential subsidies of some of the proposals and the benefits and challenges of using a date or a MW threshold. Chair Susac identified the most consensus items for grandfathering were: allowing NEM at retail rates for existing customers, identifying a cutoff date, have the system run with the home, and for a term of 20 years. Discussion opened on these items on if there was any aspect of these items which TAC members could not live with. Ms. Van Cleve identified that

Mr. Stransky and Chair Susac discussed the need to identify that existing NEM systems should not be able to expand under a grandfathering proposal.

Discussion opened on the 235MW threshold or a date which would include projects installed and those applications in the pipeline. Mr. Balzar identified that there would be confusion from customers if there is a date and threshold with a waiting list. Mr. McGinley identified that currently NV Energy has 207MW of NEM capacity installed and over 60MW of capacity which was applied for by the end of 2015. He identified that if a 2015 date was used, the 235 threshold would likely be reached.

Chair Susac said that he would make a written motion on the consensus items identified and circulate to the TAC prior to the next meeting.

Overviews of written policy recommendations to expand or revise current NEM regulations were given by Mr. Stransky, Ms. Scott, Mr. Tuma, Mr. Velotta, Mr. Balzar, and Chari Susac. Mr. McGinley identified the need to not go backward in NEM policy and to make sure the industry can be sustainable over time without putting an undue burden on other ratepayers. He expanded that increasing costs will have impacts to other customers and rates. Mr. Tuma identified that this is a complex discussion and should be the focus of the TAC over the next few months. Chairman Susac asked for proposals on incentivizing utilities for the incorporation of distributed generation. Discussion involved Mr. Stransky, Mr. McGinley, Ms. Van Cleve, Mr. Ewing, Ms. Scott, Mr. Tuma, Mr. Velotta,

Mr. McGinley discussed the need to bring better consumer protection mechanisms for customers buying rooftop solar systems. Mr. McGinley also brought up the potential to re-allocate remaining funding from the Renewable Generations program. He identified that a change in state law would be required to move that funding to support other emerging technologies.

Mr. Balzar brought up the idea of a pilot program to support energy storage.

b. Responses from the public

Mr. Tuma identified the written responses and recommendations from Dr. Carl Linville and Tom Polikalas.

7. Set time and date of next meeting.

Chair Susac set the next meeting of the TAC to be May 18th.

8. Public comments and discussion.

Mr. Travis Miller identified himself from Great Basin Solar Coalition. He expressed support for grandfathering NEM customers but with the need for flexibility for maintenance is necessary. He said most of their customers who applied are still supportive of installing under the previous NEM rules.

Mr. Greg Clark introduced himself as a NEM customer in southern Nevada since 2014. He identified the changes in energy usage his family made to accommodate the system and maximize the benefits. He would like to see the NEM rates that provide for the expansion

Ms. Chandler Sherman introduced herself from the Bring Back Solar Alliance. She indicated her support of the grandfathering proposals and the need to support NEM development. She would like a full examination at the benefits provide by distributed solar.

Mr. Richard Burk identified his support of rooftop solar systems and the need for reliable power in the summer. He would like Nevada's power supply diversified.

Mr. Dan Chia introduced himself as a representative of SolarCity. He identified the need to protect consumers and ensure that NEM customers have a positive experience. Mr. Chia discussed the proactive measures the industry has taken standardize procedures. He identified the need to examine complaint data thoroughly in the future to guarantee customers are treated fairly. Additionally, Mr. Chia identified the progress which has been made to promote rooftop solar systems to low income individuals.

9. Adjournment.

Chair Susac adjourned the meeting at 2:26pm.